



**Carnegie Mellon  
Software Engineering Institute**

Pittsburgh, PA 15213-3890



# **Introduction to the CMMI® Acquisition Module (CMMI-AM)**

## **Module 2: CMMI-AM and Project Management**

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# Agenda

## Introduction to the CMMI Acquisition Module

### Project Management Process Areas

- Project Planning
- Project Monitoring and Control
- Solicitation and Contract Monitoring
- Integrated Project Management
- Risk Management

### Summary





# Where Does Process Fit in Acquisition?

## **... at the Project Management Office (PMO)**

- Management of internal PMO activities
- Management of processes applied to project
- Oversight of contractors' processes
- Integration of contractors' and PMO processes

## **... at the Contractor**

- Management of internal contractor activities
- Oversight of subcontractor processes

## **... for integration of PMO, contractor, and subcontractor processes**



## PMO AND PROCESS

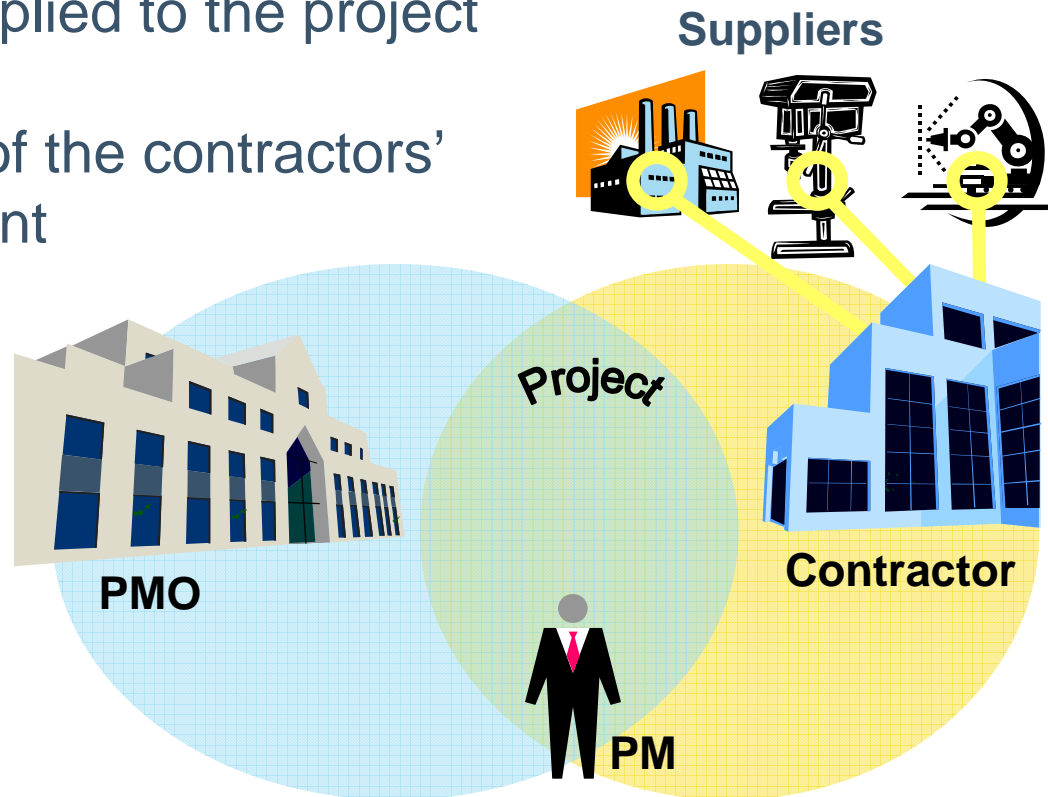
# Process and the Roles of the PM

Manage process within the PMO

Manage process applied to the project

Exercise oversight of the contractors' process management

Ensure integration of contractor and PMO processes





## PMO AND PROCESS

# The PMO Management Role

**The PM is responsible for managing internal PMO processes. The PM must take a hands-on approach to**

- Identify, define, and document process needs
- Communicate and train the PMO staff
- Support, track, measure, and review the PMO processes





## PMO AND PROCESS

# Program Management Role

**Define the interface between the PMO and the contractor using the RFP and negotiations**

- Project process requirements
- Project metrics
- Project communication needs
- Project risk management needs

**Manage the interface during contract execution**

- Real-time monitoring of deliverables
- Keep communication channels clear & open
- Develop trust with contractor



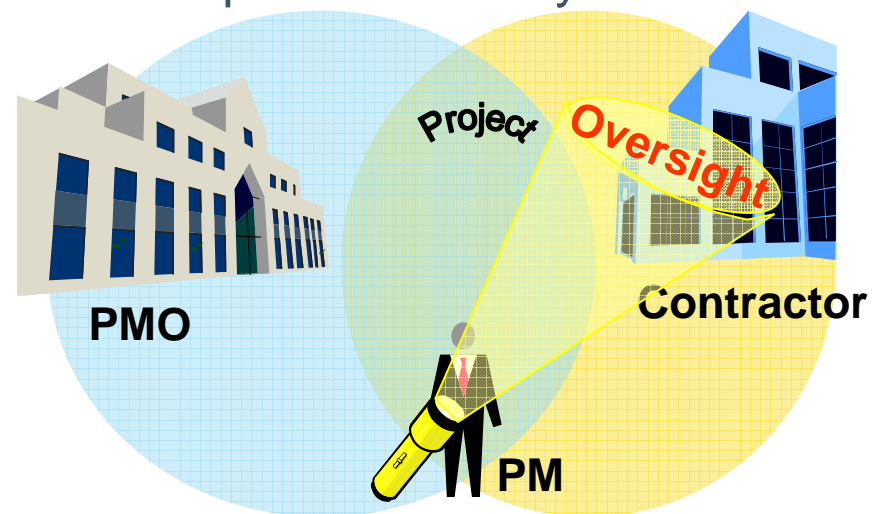


## PMO AND PROCESS

# Contractor Oversight Role <sub>1</sub>

Process maturity of the contractor should be a consideration in source selection

- Obtain process definitions and commitments
  - Just requiring a CMMI Maturity Level is **NOT** enough.
  - You need to ensure that high-maturity processes are applied to YOUR project
  - Require your bidders to define the processes they will use in their proposals
  - Evaluate the proposed processes as a part of source selection
  - Reference the processes in the contract
- Plan process integration





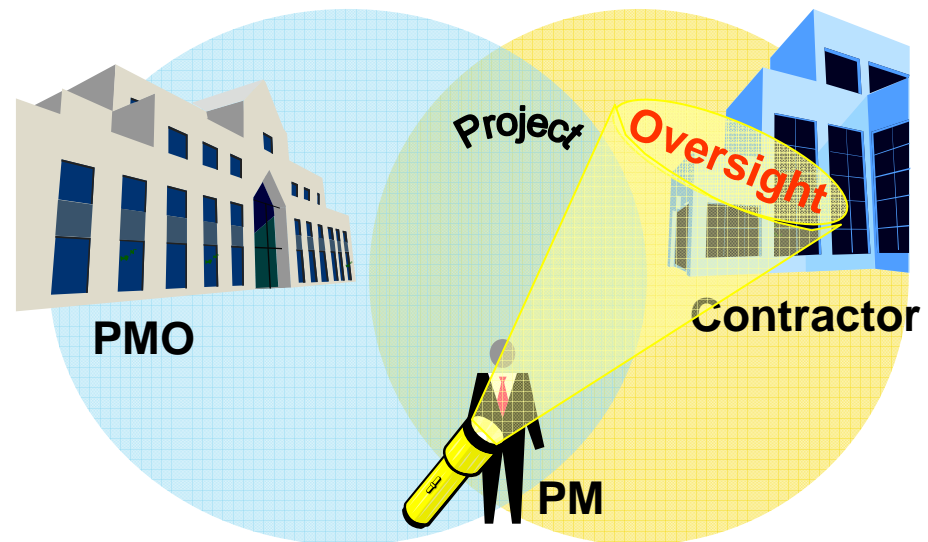


## PMO AND PROCESS

# Contractor Oversight Role <sub>2</sub>

**After contract award, ensure that contracted process commitments are kept**

- Committed processes are used by the project team
- Process artifacts are evident
- Process integration is effective and monitored
- Consider periodic independent appraisals of key process areas





## PMO AND PROCESS

# Subcontractor Oversight Role

For many systems, the bulk of the work is done by subcontractors

Primary responsibility for oversight of subcontractors lies with the prime contractor

PMO role is to ensure that prime is providing adequate oversight to subcontractors

- Ensure flowdown of project process requirements
- Ensure integration of prime and subcontractor processes



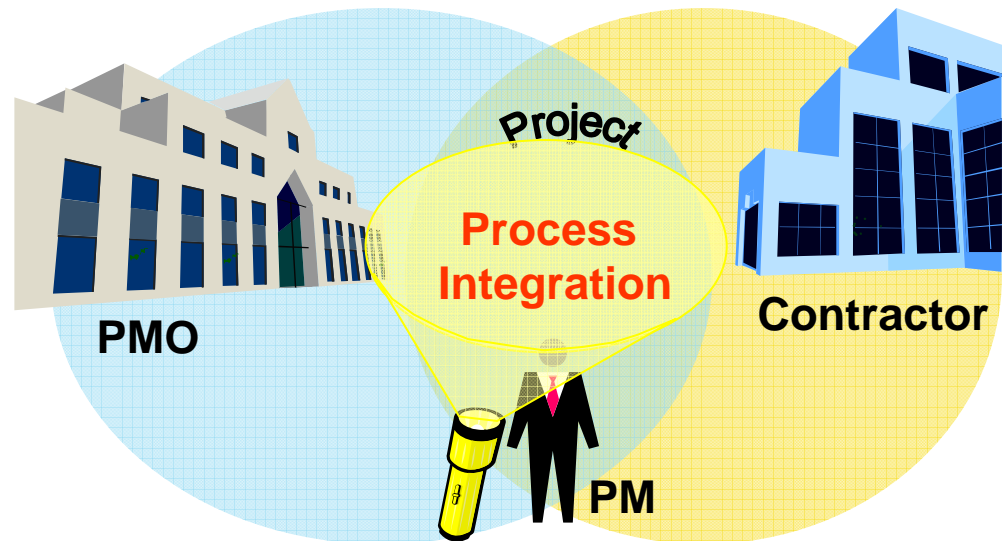


## PMO AND PROCESS

# Process Integration Role

**It is the PMO's responsibility to ensure PMO and Contractor processes are compatible**

- Include any process “must haves” in the RFP
  - Consider specific compatibility with tools for risk, requirements, schedule, etc.
- Ensure good communications with contractor(s) regarding process incompatibilities
- Integration focus needed throughout project





## CMMI Acquisition Module (CMMI-AM)

Focuses on effective acquisition activities and practices that are implemented by first-level acquisition projects (e.g., System Project Office/Program Manager)

Acquisition practices drawn and summarized from existing sources of best practices:

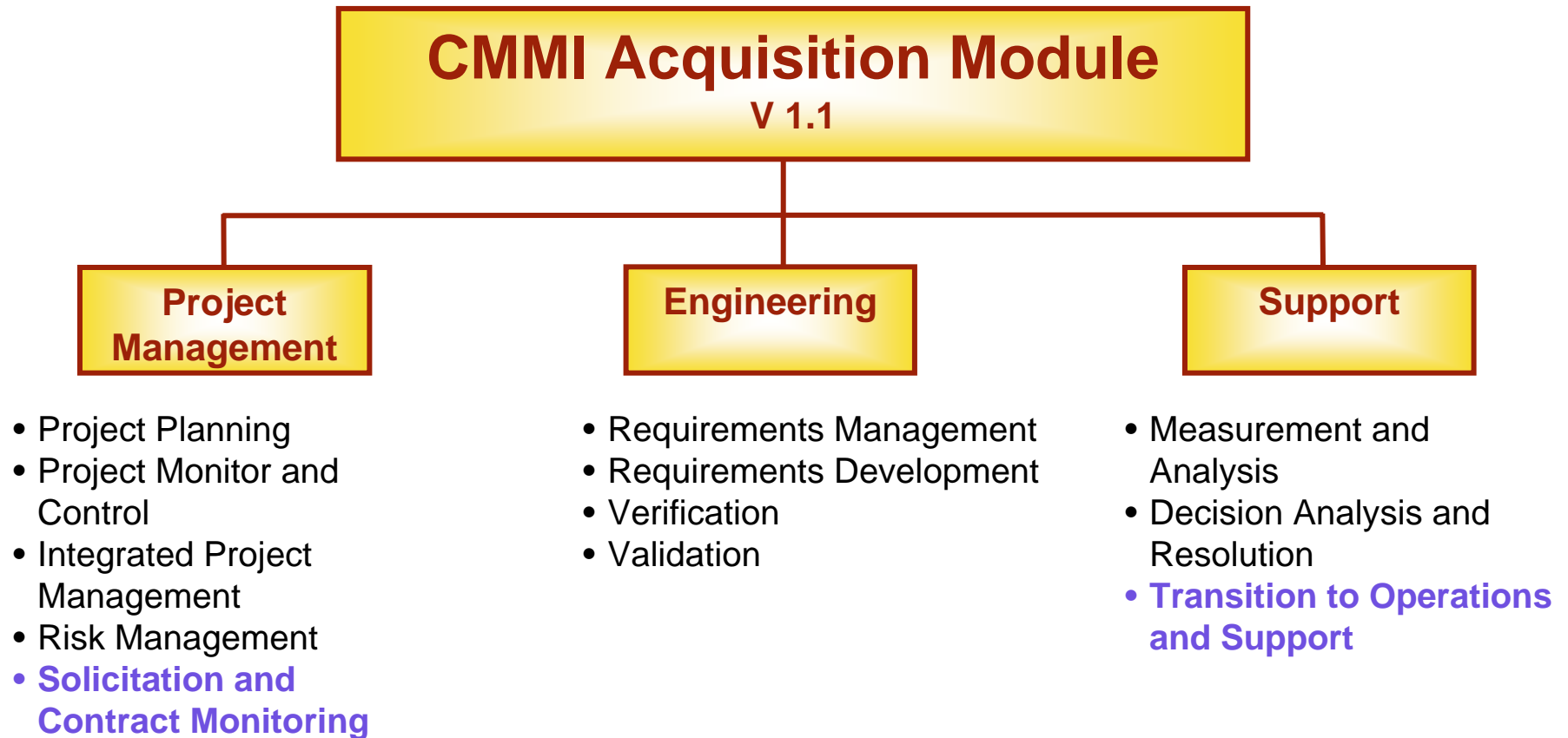
- Software Acquisition Capability Maturity Model (SA-CMM)
- Capability Maturity Model Integration (CMMI)
- FAA Integrated Capability Maturity Model (iCMM)
- Section 804

Intended to be used in conjunction with the CMMI as an acquisition “lens” for interpreting the CMMI in acquisition environments

**CMMI-AM – a tool for the acquirer**



# CMMI-AM Structure

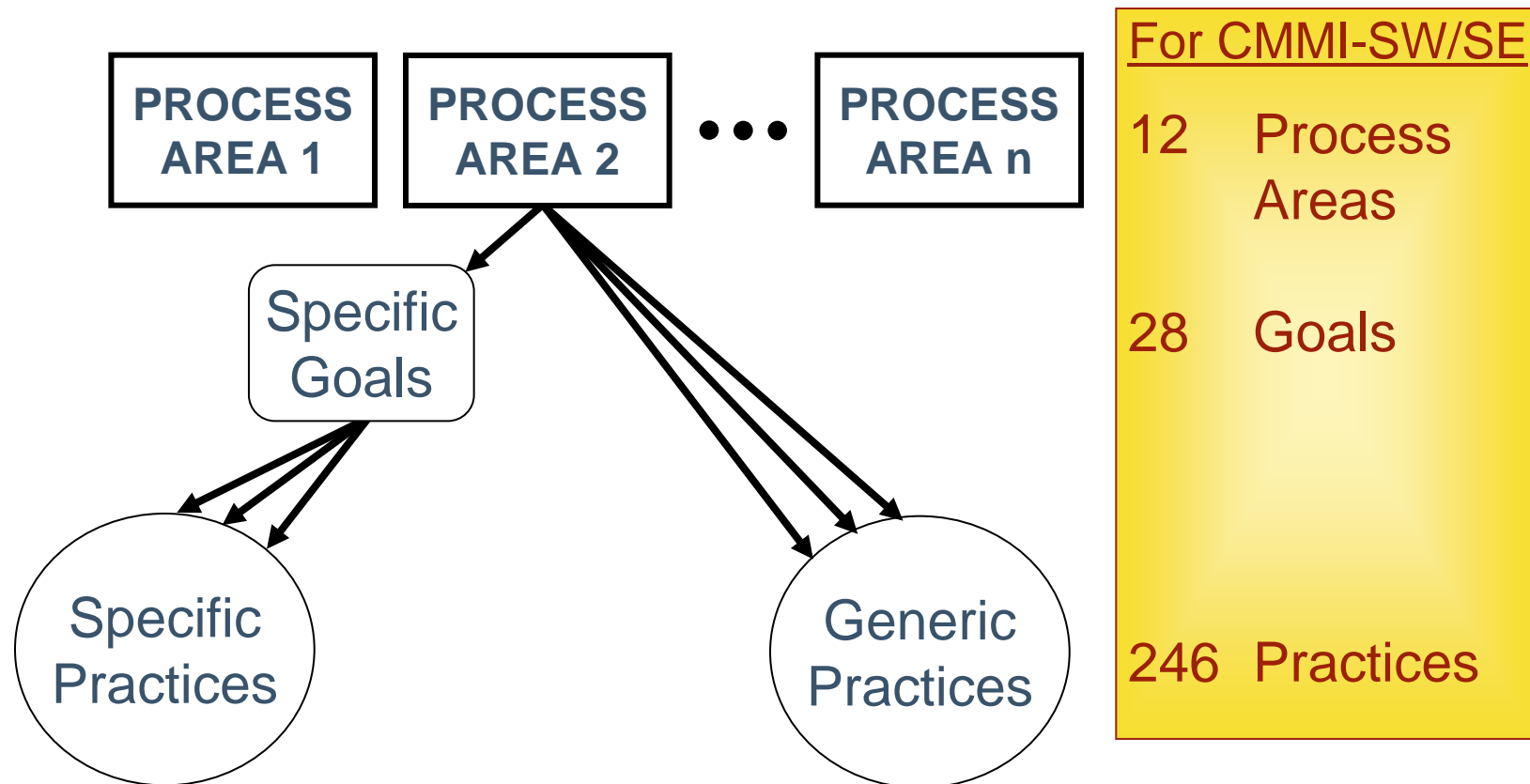


## Key

■ New for CMMI-AM



# Structure of CMMI-AM<sub>1</sub>



**... plus 47 self-assessment questions**



# Agenda

## Introduction to the CMMI Acquisition Module

### Project Management Process Areas

- Project Planning
- Project Monitoring and Control
- Solicitation and Contract Monitoring
- Integrated Project Management
- Risk Management

### Summary





# Project Management PAs

Project management process areas cover the project management activities related to planning, monitoring, and controlling the project.

<b>Project Planning</b>	<b>PP</b>
<b>Project Monitoring and Control</b>	<b>PMC</b>
<b>Solicitation and Contract Monitoring</b>	<b>SCM</b>
<b>Integrated Project Management</b>	<b>IPM</b>
<b>Risk Management</b>	<b>RSKM</b>





# Project Planning

The purpose of project planning is to establish and maintain plans that define project activities. For acquisition:

- Project planning starts by setting the **acquisition strategy** and is followed by planning the acquisition process in **ever increasing levels of detail**
- As the acquisition proceeds toward selection of a supplier, the **supplier's planning process should be reviewed** for sufficiency
- The resulting **plans should also be reviewed** for consistency with the system acquisition plans
- The acquirer's and developer's project **planning processes are continuous** and the **plans evolve** to meet the project's needs.



# Purpose of Acquisition Planning

Guide program execution

- From initiation through re-procurement and during post-production support
- Systems, subsystems, components, spares, and services

Minimize the time and cost of satisfying identified, validated needs in a manner consistent with common sense and sound business practices

Planning evolves through an iterative process and becomes increasingly more definitive in describing the relationship of the essential elements of a program

Paraphrased from DoD 5000 Interim Guidebook



# Poor Project Planning ...

## Symptoms

- Poor estimates lead to cost and schedule overruns.
- An inability to discover deviations from undocumented plans.
- Resources are not available/applied when needed.
- An inability to meet commitments.
- Project failure.

## Why should we care?

- Customers don't trust acquirers or suppliers who waste their resources (i.e., loss of future business).
- No lessons learned for future projects means making the same mistakes on multiple projects.
- Unhappy customers, employees, and stakeholders means a short life for the business.

**“If you fail to plan, then you plan to fail.”**



## Acquisition Strategy vs. Acquisition Plan

Acquisition Strategy is high-level

- “Top-level road map for program execution from program initiation through post-production support.”
- ITERATIVE – should be updated
- Level of detail changes as you go through the phases
- As per DoDI 5000.2 required for ALL programs at:
  - Program Initiation for Ships
  - Milestone B
  - Milestone C
  - Full-Rate Production Deployment Review

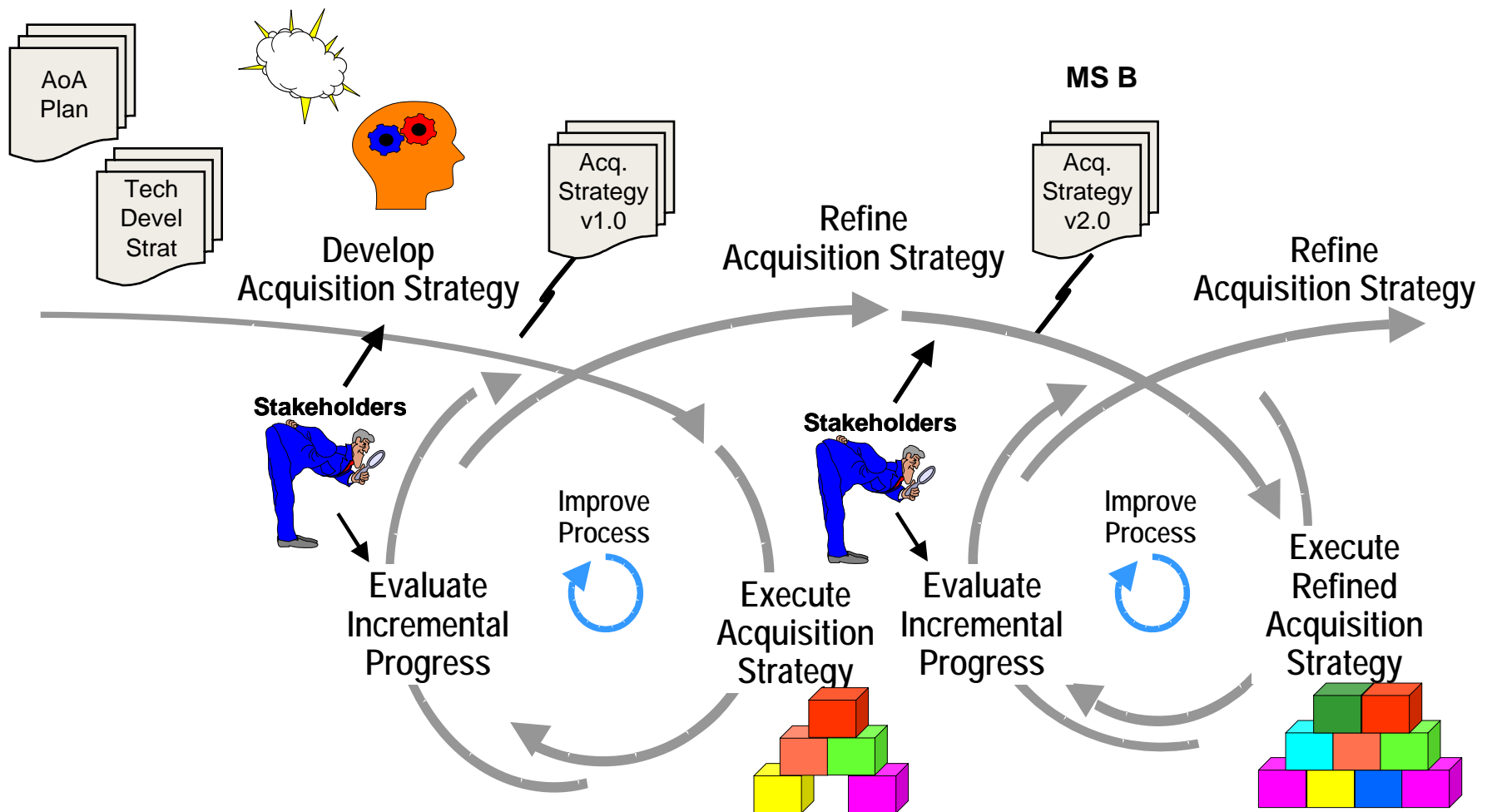
Acquisition Plan is typically for one phase

Required by the Federal Acquisition Regulation (FAR)

Focuses on specifics of the acquisition

Concerned with contract type, incentives, etc.

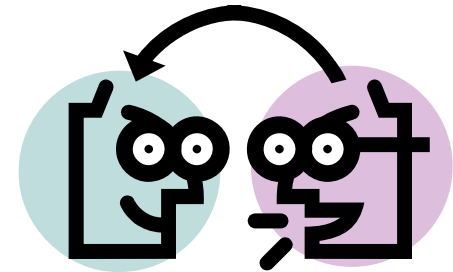
# Acquisition Planning Cycle





# Acquisition Planning Objectives

## Communicate!



- Identify risks
  - Strategies for risk mitigation
  - Balance risks with cost, schedule and performance
- Define expectations for all stakeholders
  - Role and responsibilities of all parties
- Determine how to make your program executable within budget and schedule constraints
  - Expected program changes throughout lifecycle



# Acquisition Strategy Elements

Acquisition Approach

Requirements

Risk Management

Design Considerations

Business Strategy

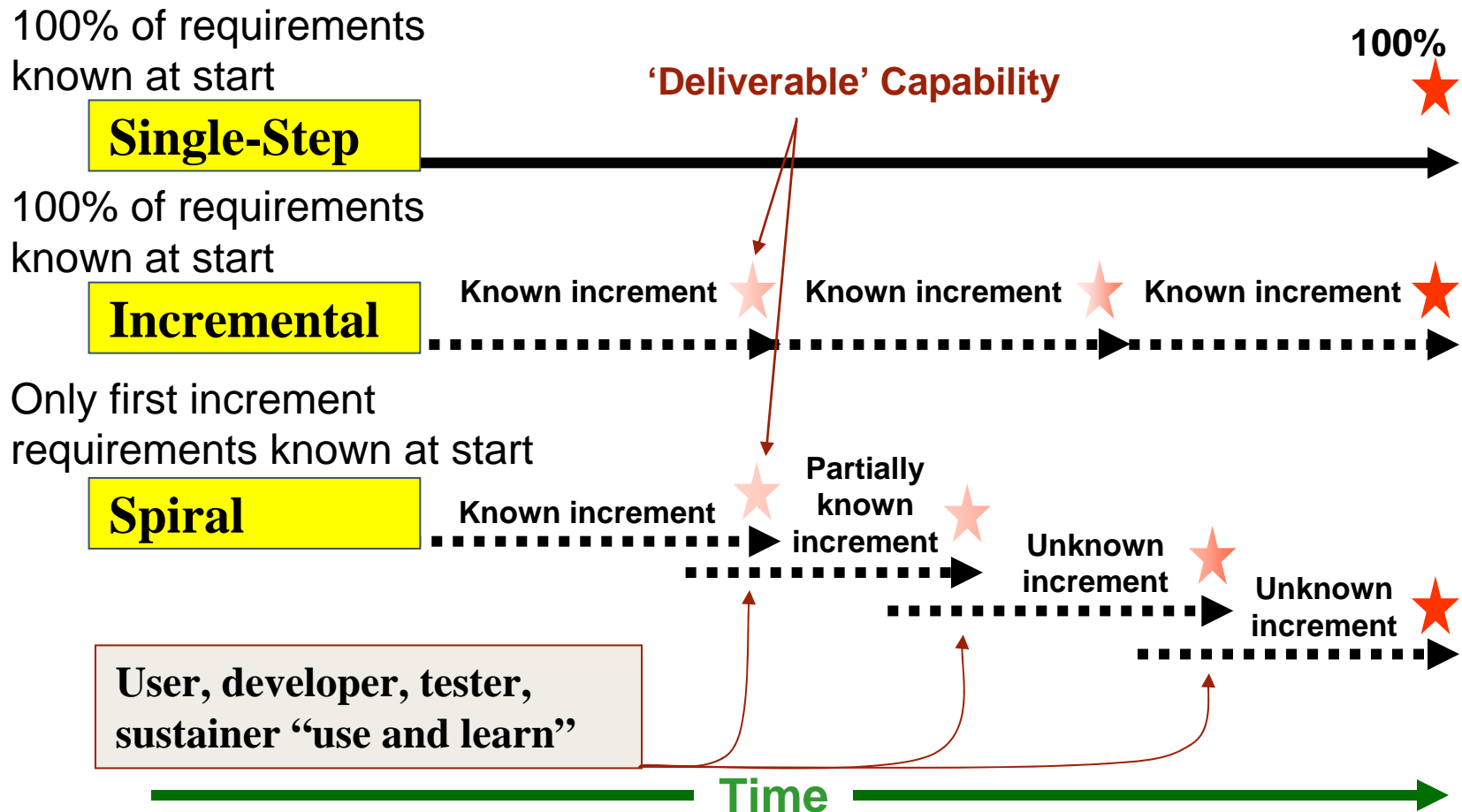
Program Management

Support Strategy

From Interim Defense Acquisition Guidebook, 30 Oct 2002



# Single-Step and Evolutionary Acquisition

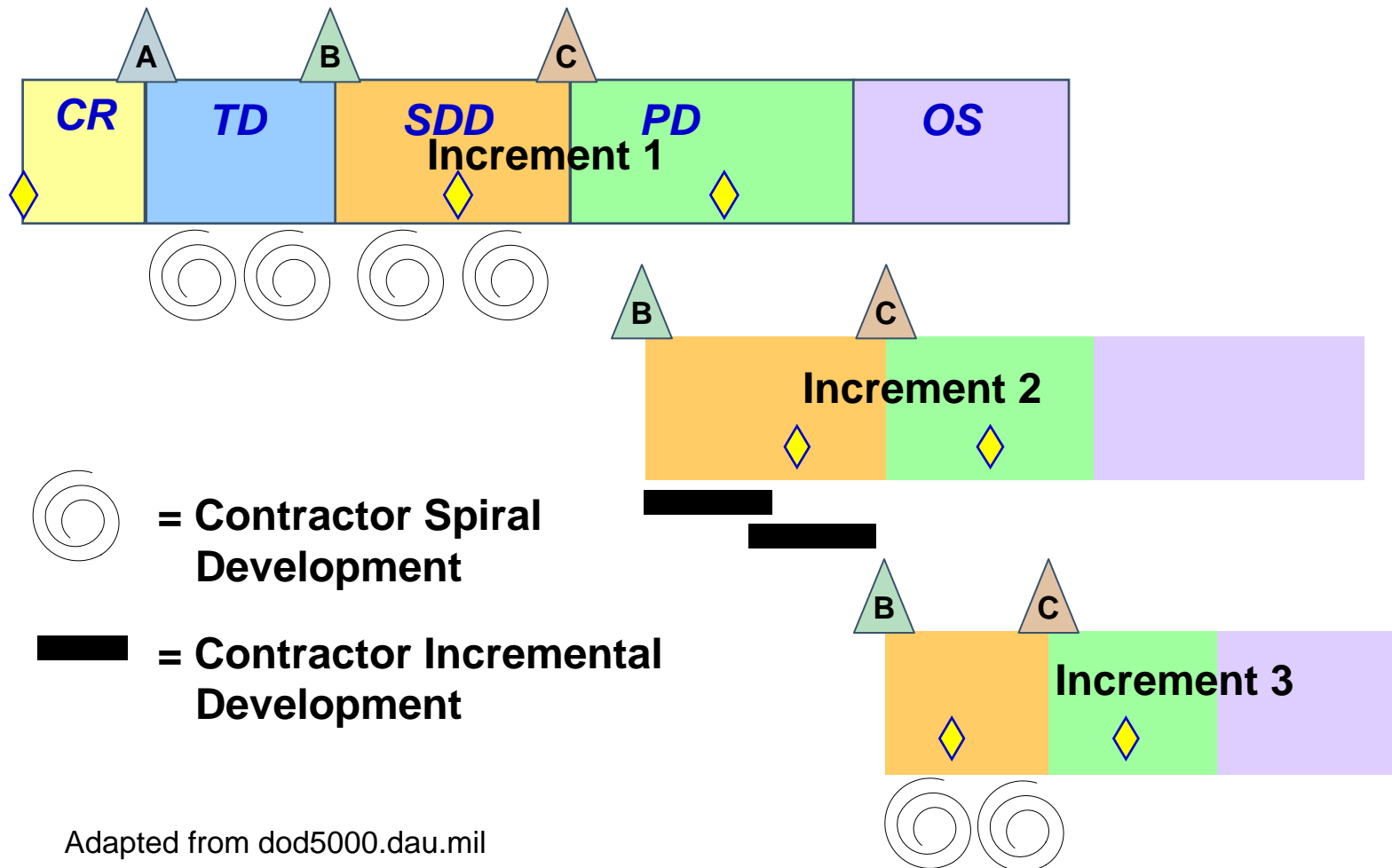


Based on AF Program Manager Workshop presented by Mr Little





# Evolutionary Approach



Adapted from dod5000.dau.mil



# Acquisition & Development Methods

## Single Step Acquisition, Contractor Incremental Development

Acquisition of a New Utility truck

Increment 1 – Hard to produce brakes

Increment 2 – Easier to produce brakes



## Evolutionary Acquisition (Spiral), Contractor Mixed Development

Inc 1 – HW Upgrades

– Comms System

Single Step Development



Inc 2–SW radios for existing interfaces

Increment 1- Interface 1

Increment 2- Interface 2



Inc 3 – Develop new interfaces

Spiral 1 – Prototype 1

Spiral 2 – Prototype 2



Spiral 3 – Prototype 3



 = fielded system



# Program Drivers

**What software and system issues might DRIVE your acquisition strategy due to the risk they pose to successful execution?**

- Schedule
- Funding
- Requirements Stability
- External Interfaces
- Deployment
- Interoperability (Programmatic and Developmental)
- Technology Maturity
- Staffing
- Test Requirements
- User Support
- Policy Mandates
- Security
- System Complexity  
Precedented / Unprecedented



# Dealing with Drivers

Determine which present the highest risk exposure to your program

Determine how the drivers will influence your acquisition strategy elements

- Formulate strategies that you believe will deal with the risks posed by the top drivers

Analyze the strategies to determine gaps and remaining high risk areas



# Acquisition Plan Contents

## Acquisition background and objectives

- Statement of need
- Cost
- Risks
- Delivery or performance-period requirements
- Applicable conditions
- Capability or performance
- Trade-offs

## Plan of action (sample)

- Sources
- Source-selection procedures
- Budgeting and funding
- Make or buy
- Test and evaluation
- Security considerations
- Competition
- Acquisition considerations
- Government-furnished property
- Inherently governmental functions
- Logistics considerations
- Contractor versus Government performance



## Project Planning

# CMMI-AM Goals and Practices 1

Specific Goal	Specific Practice
---------------	-------------------

<b>Establish Estimates</b>	<ul style="list-style-type: none"><li>• Estimate the Scope of the Project</li><li>• Establish Estimates of Work Product and Task Attributes</li><li>• Define Project Life Cycle</li><li>• Determine Estimates of Effort and Cost</li></ul>
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<b>Develop a Project Plan</b>	<ul style="list-style-type: none"><li>• Establish the Budget and Schedule</li><li>• Identify Project Risks</li><li>• Plan for Data Management</li><li>• Plan for Project Resources</li><li>• Plan for Needed Knowledge and Skills</li><li>• Plan Stakeholder Involvement</li><li>• Establish the Project Plan</li></ul>
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<b>Obtain Commitment to the Plan</b>	<ul style="list-style-type: none"><li>• Review Plans that Affect the Project</li><li>• Reconcile Work and Resource Levels</li><li>• Obtain Plan Commitment</li></ul>
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## Project Planning

# Goal 1: Establish Estimates <sup>1</sup>

**Estimates of project planning parameters are established and maintained**

**Establish a top-level WBS<sup>1</sup> to estimate the scope of the project**

- Defines tasks for the ENTIRE project, including efforts of:
  - The supplier
  - The acquirer
  - Other stakeholders (e.g., test community, users)
- Based upon product architecture

**Establish estimates of work product and task attributes**

- Provides a basis for cost and effort estimation
- Software examples – KSLOC, function points, # of objects, # of interfaces, data volume, etc.

<sup>1</sup> See MIL-HDBK-881A ( <http://dcarc.pae.osd.mil/881handbook/881A.pdf> )



## Project Planning

# Goal 1: Establish Estimates <sub>2</sub>

**Define the project life-cycle phases upon which to scope the planning effort**

- Acquisition method
  - Single-Step    - Evolutionary-incremental    Evolutionary-spiral
- Life Cycle phases
  - Development    - Manufacturing    - Verification    - Training
  - Deployment    - Operation    - Support    - Disposal

**Estimate the project effort and cost for the work products and tasks based on estimation rationale**

- Define estimation rationale
- Estimate cost and effort for each work product and task
- Consider independent review of estimates





## Project Planning

# Goal 2: Develop a Project Plan <sup>1</sup>

**A project plan is established and maintained as the basis for managing the project**

### **Establish and maintain the project's budget and schedule**

- Identify assumptions, constraints, major milestones
- Identify task dependencies

### **Identify and analyze project risks**

- Involve stakeholders in identification of risk
- Analyze impact, timeframe, and probability of occurrence

### **Plan for the management of project data**

- Create master list of data to be managed (formal and informal)
  - Identify needs for version control and configuration mg't
- Define data content and formats
- Establish requirements for security and information assurance



## Project Planning

# Goal 2: Develop a Project Plan 2

### Plan for necessary resources to perform the project

- Identify and plan for process requirements
- Identify and plan for staffing requirements
- Identify and plan for facilities and equipment requirements

### Plan for knowledge and skills needed to perform the project

- Identify skills needed
- Assess available skills
- Develop a plan to fill the gaps



## Project Planning

# Goal 2: Develop a Project Plan <sup>3</sup>

## Plan the involvement of identified stakeholders

- Identify relevant stakeholders
- Plan their involvement
- Obtain commitments for involvement

## Establish and maintain the overall project plan content

- Captures all relevant planning items to enable communication among the project team and stakeholders
- May be comprised of multiple plans such as
  - Integrated Master Plan
  - Integrate Master Schedule
  - Systems Engineering Management Plan
  - Software Development Plan
- Must be maintained throughout the acquisition



# Agenda

Introduction to the CMMI Acquisition Module

Project Management Process Areas

- Project Planning
- **Project Monitoring and Control**
- Solicitation and Contract Monitoring
- Integrated Project Management
- Risk Management

Summary





# Project Monitoring and Control<sub>1</sub>

The purpose of project monitoring and control is to provide understanding into the project's progress so that appropriate corrective actions can be taken when the project's performance deviates significantly from the plan.



# Project Monitoring and Control<sub>2</sub>

For Acquisition, monitoring and control functions are directed within the acquisition project early in the process as the acquisition planning is performed and the strategy is defined. As the acquisition process unfolds, monitoring and control are essential to ensuring that appropriate resources are being applied and that the internal acquisition activities are progressing according to plan.

Once a supplier is selected and an award is made, the role of monitoring and control becomes two fold, concerned with both continuing to monitor and control internally while also monitoring and controlling the progress of the supplier's execution under the supplier's project plan.



# Poor Project Monitoring and Control...

## Symptoms

- Lots of time is spent in meetings trying to discover project status rather than reporting on it.
- Data needed for management decisions is unavailable when needed.
- Actions that should have been taken early aren't identified until it's too late

## Why should we care?

- If you don't know what's going on, corrective action can't be taken early when it's least expensive.
- Lack of management insight/oversight makes project results highly unpredictable, even later in the project.
- If your confidence in the status you give to your customer is low, they probably perceive it.



## Project Monitoring and Control

# CMMI-AM Goals and Practices

Specific Goal	Specific Practice
<b>Monitor Project Against Plan</b>	<ul style="list-style-type: none"><li>• Monitor Project Planning Parameters</li><li>• Monitor Commitments</li><li>• Monitor Project Risks</li><li>• Monitor Data Management</li><li>• Monitor Stakeholder Involvement</li><li>• Conduct Progress Reviews</li><li>• Conduct Milestone Reviews</li></ul>
<b>Manage Corrective Action to Closure</b>	<ul style="list-style-type: none"><li>• Analyze Issues</li><li>• Take Corrective Action</li><li>• Manage Corrective Action</li></ul>





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# Solicitation and Contract Monitoring

The purpose of Solicitation and Contract Monitoring is to prepare a solicitation package that identifies the needs of a particular acquisition, to select a supplier who is best capable of satisfying those needs, and to establish the process for monitoring the supplier for the duration of the contract.

For Acquisition, the solicitation must comply with the applicable federal, departmental, and service acquisition regulations and policies. The solicitation should address issues appropriate to the product domain or acquisition environment (e.g., supplier process evaluations, operational safety suitability and effectiveness, certifications, architecture evaluations, and interoperability). The representatives responsible for these activities within the project or stakeholder organizations should be consulted for proper inclusion of those activities into the solicitation and contract monitoring process.



# Poor Solicitation and Contract Monitoring...

## Symptoms

- The solicitation package does not include the agreement/contractual requirements and proposal evaluation criteria.
- The technical and management elements of proposals are not properly evaluated to ensure that the requirements of the agreement/contract will be satisfied.
- The selection official will not select suppliers who are qualified to satisfy the agreement/contract's requirements for the project's products..

## Why Do We Care?

- The project team will have insufficient insight into the supplier's activities to ensure the effort is managed, controlled and complies with contract requirements.
- The project team and supplier team will be unable to maintain ongoing communication and commitments.



## Solicitation and Contract Monitoring

# CMMI-AM Goals and Practices

Specific Goal	Specific Practice
<b>Prepare for the Solicitation</b>	<ul style="list-style-type: none"><li>• Designate a Selection Official</li><li>• Establish a Solicitation Package and Evaluation Criteria</li><li>• Establish Cost and Schedule Estimates</li><li>• Validate the Solicitation Package</li></ul>
<b>Select Suppliers</b>	<ul style="list-style-type: none"><li>• Evaluate Proposals</li><li>• Use Evaluation Results to Select Suppliers</li></ul>
<b>Award Contracts</b>	<ul style="list-style-type: none"><li>• Establish an Understanding of the Contract and Proposed Approach</li><li>• Establish Communications Processes and Procedures</li></ul>
<b>Coordinate Work with Suppliers</b>	<ul style="list-style-type: none"><li>• Monitor Selected Supplier Processes</li><li>• Evaluate Selected Supplier Work Products</li><li>• Revise the Supplier Agreement or Relationship</li></ul>



## Solicitation and Contract Monitoring

# Goal 1: Prepare for the Solicitation 1

**The project is prepared to conduct the solicitation**

**Designate a selection official responsible for making the selection decision**

**Establish and maintain a solicitation package that includes the needs of the acquisition and corresponding proposal evaluation criteria**

- Define the required proposal content
  - Process descriptions and commitments
  - Proposed development approach (e.g., processes, tasks, activities)
  - Metrics to be provided to the PMO (including process metrics)
  - Appropriate plans (e.g., Integrated Mg't plan, Software Development Plan, risk Management Plan)



## **Solicitation and Contract Monitoring**

# **Goal 1: Prepare for the Solicitation 2**

**Establish and maintain independently reviewed cost and schedule estimates for the products to be acquired**

- Reviewers should not be connected with the acquisition team or the supplier

**Validate the solicitation package with end users and potential offerors to ensure the approach and cost and schedule estimates are realistic and can reasonably lead to a usable product.**

- In a competitive environment, ensure equal access to all potential offerors. Provide a means for reviewers to offer clarifications of ambiguous capabilities.
- In a sole source or change order environment, ensure that relevant stakeholders recognize the consequences of proposed changes



## Solicitation and Contract Monitoring

# Goal 2: Select Supplier

**Suppliers are selected based on the solicitation package**

**Evaluate proposals according to the documented evaluation criteria**

- In addition to evaluating the technical approach, evaluate
  - Management practices
  - Process capabilities
  - Cost
  - Past Performance
  - Sufficiency of plans
  - Domain experience
  - Schedule

**Use proposal evaluation results as a basis to support selection decisions**



## Solicitation and Contract Monitoring

# Goal 3: Award Contracts <sup>1</sup>

**Contracts are issued based on the needs of the acquisition and the suppliers' proposed approaches**

**Establish and maintain a mutual understanding of the contract with selected suppliers and end users based on the acquisition needs and the suppliers' proposed approaches**

- Ensure that contractual commitments are made for factors critical to project success (e.g., process execution, metrics collection and reporting)
- Maintain mutual understanding for the duration of the contract





## Solicitation and Contract Monitoring

# Goal 3: Award Contracts <sup>2</sup>

**Establish and maintain communication processes and procedures with suppliers that emphasize the needs, expectations, and measures of effectiveness to be used throughout the acquisition**

- Define ground rules for
  - communication (e.g., data reported, frequency of reporting)
  - key decision-making (e.g., rationale, documentation, acquirer involvement)
  - conflict resolution
- Monitor process deployment and effectiveness
- Maintain open lines of communication



## Solicitation and Contract Monitoring

# Goal 4: Coordinate Work <sup>1</sup>

**Work is coordinated with suppliers to ensure the contract is executed properly**

**Monitor and evaluate selected processes used by the supplier based on the supplier's documented processes**

- Adherence to plan
- Timeliness of deployment
- Effectiveness of process

**Evaluate selected supplier work products based on documented evaluation criteria**

- Define work products to be evaluated (may include interim products) and evaluation criteria
- Ensure capacity and capability for timely and accurate evaluation



## Solicitation and Contract Monitoring

# Goal 4: Coordinate Work <sub>2</sub>

**Revise the supplier agreement or relationship, as appropriate, to reflect changes in conditions**

- Address shortfalls in both products and processes
- Offer relief when needs evolve to invalidate process requirements, documentation requirements, reporting requirements, etc.



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- **Integrated Project Management**
- Risk Management

Summary





# Integrated Project Management

For Acquisition, integrated project management involves establishing project management processes consistent with and tailored from the organizations standard processes. This includes higher level acquisition guidance, regulations, instructions, as well as local practices established to be used across various projects in the local organization. Establishing an integrated project management process incorporating and involving all stakeholders (executive level acquisition offices, users, test organizations, developers, and associated government support organizations) is critical to the successful development of the project.

Formal interfaces among project stakeholders take the form of memorandums of understanding (MOUs), memorandums of agreements (MOAs), contractual commitments, associate contractor agreements and similar documents depending on the nature of the interfaces and involved stakeholders.



# Poor Integrated Project Mg't ...

## Symptoms

- No defined processes for the project
- Project estimates make no reference to prior projects
- Plans do not reflect the way the project is executed
- Project staff does not know what is in the project plans
- Stakeholders are not identified and involved

## Why do we care?

- Without processes, performance is ad hoc
- Without the history of prior projects, we may make the same mistakes
- If execution doesn't follow the plans, what does it follow?
- Uninvolved stakeholders can provide last-minute surprises
- Lessons learned are not captured



## Integrated Project Management CMMI-AM Goals and Practices

Specific Goal	Specific Practice
<b>Use the Project's Defined Process</b>	<ul style="list-style-type: none"><li>• Establish the Project's Defined Process</li><li>• Use Organizational Process Assets for Planning Project Activities</li><li>• Integrate Plans</li><li>• Manage the Project Using the Integrated Plans</li><li>• Contribute to the Organizational Process Assets</li></ul>
<b>Coordinate and Collaborate with Relevant Stakeholders</b>	<ul style="list-style-type: none"><li>• Manage Stakeholder Involvement</li><li>• Manage Dependencies</li><li>• Resolve Coordination Issues</li></ul>



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# Risk Management

The purpose of risk management is to identify potential problems before they occur, so that risk-handling activities may be planned and invoked as needed across the life of the product or project to mitigate adverse impacts on achieving objectives.

For Acquisition, risk identification and estimation of probability of occurrence and impact, particularly for those risks involved in meeting performance requirements, schedules, and cost targets, largely determines the acquisition strategy. The acquirer has a dual role, first in assessing and managing overall project risks for the duration of the project, and second, in assessing and managing risks associated with the performance of the supplier. As the acquisition progresses to the selection of a supplier, the risk specific to the supplier's technical and management approach becomes important to the success of the acquisition.



# Poor Risk Management ...

## Symptoms

- Risks are being ignored.
- Known risks to project staff are a surprise to management.
- Every time a new problem manifests, a new management technique is tried.

## Why should we care?

- The project may escape some of the “bullets,” but not all of them.
- No lessons learned for future projects means making the same mistakes on multiple projects.
- Repeated project failures due to unforeseen (but predictable) risks costs you and your organization.



## Risk Management

# CMMI-AM Goals and Practices

Specific Goal	Specific Practice
<b>Prepare for Risk Management</b>	<ul style="list-style-type: none"><li>• Determine Risk Sources and Categories</li><li>• Define Risk Parameters</li><li>• Establish a Risk Management Strategy</li></ul>
<b>Identify and Analyze Risks</b>	<ul style="list-style-type: none"><li>• Identify Risks</li><li>• Evaluate, Categorize, and Prioritize Risks</li></ul>
<b>Mitigate Risks</b>	<ul style="list-style-type: none"><li>• Develop Risk Mitigation Plans</li><li>• Implement Risk Mitigation Plans</li></ul>



# Acquisition Risk Management <sup>1</sup>

## What Can Acquisition Program Offices Do? — A Few Ideas

**Start a risk management program on Day 1 of the program**

**Ensure that PMO staff have appropriate risk management training**

**Use multiple methods to identify risk sources:**

- periodic risk reporting
- voluntary risk reporting
- taxonomy-based questionnaire (TBQ)
- brainstorming
- risk report forms
- TBQ interviews



# Acquisition Risk Management <sub>2</sub>

## What Can Acquisition Program Offices Do? — A Few Ideas

- Add language to RFPs and contracts that specify how risks are to be reported to the PMO
- Encourage decentralization of risk identification and analysis following an organizationally defined process
- Establish and maintain a schedule of joint risk reviews with all contractors throughout the program, including joint prioritization of the most important risks to the program
- Find ways to reward contractors for early identification of issues and risks
- Define a process and criteria for escalating risks to the next higher level



# Summary <sup>1</sup>

PM roles include PMO management, project management, supplier oversight, indirect subcontractor oversight, and process integration

CMMI-AM is a tool intended to help the **acquirer** achieve success

Development of a suitable **acquisition strategy** is a key component of project planning

Principal goals of **Project Planning**

- Establish estimates
- Develop a project plan
- Obtain commitment to the plan

Principal goals of **Project Monitoring and Control**

- Monitor Project Against Plan
- Manage Corrective Action to Closure



# Summary <sup>2</sup>

## Principal goals of **Solicitation and Contract Monitoring**

- Prepare for the Solicitation
- Select Suppliers
- Award Contracts
- Coordinate Work with Suppliers

## Principal goals of **Integrated Project Management**

- Use the Project's Defined Process
- Coordinate and Collaborate with Relevant Stakeholders

## Principal goals of **Risk Management**

- Prepare for Risk Management
- Identify and Analyze Risks
- Mitigate Risks